CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 00-091
AMENDMENT OF WASTE DISCHARGE REQUIREMENTS
ORDER NO. 91-052

KELLER CANYON LANDFILL COMPANY
CLASS II SOLID WASTE DISPOSAL SITE
PITTSBURG, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds:

SITE OWNER AND LOCATION

1. The Keller Canyon Landfill Company, a wholly owned subsidiary of Allied Waste (hereafter called the discharger), owns and operates a 2,628 acre site containing a Class II solid waste management unit, with a permitted waste disposal area of 244 acres. The site is located immediately south of the City of Pittsburg, to the east of Bailey Road in the foothills of the Mt. Diablo Range.

PURPOSE OF ORDER AMENDMENT

2. The purpose of this Order is to amend the discharger's current Waste Discharge Requirements, so as to allow for an alternative design for the proposed lateral liner expansion referred to as Phase 2B.

SITE HISTORY

3. The discharger started accepting waste on May 7, 1992. The current Waste Discharge Requirements for the discharger are contained in Board Order No. 91-052, issued by the Board on April 15, 1991. Following a petition, this Order was amended by Order No. WQ 92-06 of the State Water Resources Control Board, on June 3, 1992. The Regional Board amended the waste discharge requirements again on September 15, 1993, in Order 93-113. This was a general amendment of waste discharge requirements intended to bring all of this Region's landfills into compliance with federal RCRA Subtitle D requirements for monitoring and waste containment. The waste discharge requirements were amended again on May 21, 1997, in Order 97-060, which allowed for an alternative liner design for a lined area of the landfill's toe berm. Lastly, the waste discharge requirements were amended on August 19, 1998, in Order 98-081, which allowed for an alternative liner design for a lateral liner expansion referred to then as Phase 3A. This phase has been subsequently renamed Phase 2A.

WASTES AND THEIR CLASSIFICATION

4. The Discharger discharges municipal solid wastes, non-hazardous wastes, construction and demolition wastes, and dewatered sewage sludges to the permitted landfilled area. These wastes are classified as "designated," "non-hazardous solid waste," or "inert wastes," using criteria set forth in Sections 20210, 20220, and 20230 of Division 2, Title 27 of the California Code of Regulations (formerly referred to as Chapter 15, Title 23). Title 27 contains the regulations promulgated by the State Water Resources Control Board for the water quality aspects of discharges of solid waste to land for disposal. These regulations establish waste and site classifications and waste management requirements for solid waste disposal in landfills.

5. The discharger is allowed to accept up to 3,500 tons per day of waste. Currently, the discharger receives an average of 2,300 tons of waste per day, or a fill volume of about 3,500 cubic yards per day. About 3/4 of this consists of municipal solid waste, with the remainder being special wastes, construction & demolition wastes, and soil cover.

TITLE 27 REQUIREMENTS

6. Title 27, Section 20310, requires that Class II waste management units shall be designed and constructed to prevent migration of wastes from the Units to adjacent geologic materials, groundwater, or surface water, during disposal operations, closure and the post-closure maintenance period.

7. The discharger has designed the landfill to isolate wastes from Waters of the State, in accordance with Order 91-052, by installing a single composite liner system consisting of at least two feet of clay, compacted to a permeability of not more than 1 x 10-7 cm/sec, overlain by a synthetic flexible membrane liner consisting of 80 mil High Density Polyethylene (HDPE), with a leachate collection and removal system (LCRS) above the liner and a blanket underdrain system beneath the liner, to intercept rising groundwater, if any. These requirements are consistent with those required by Title 27, Section 20250(b).

8. The discharger's excavation and grading plan reduced the separation between wastes and Waters of the State to less than the 5 feet required by Title 27, Section 20240(c). It is not feasible for the discharger to maintain the requisite separation without incurring unreasonable expense to import fill material and reconfigure the design of the landfill. The discharger has installed a blanket underdrain as an engineered alternative to the prescribed separation, because it will prevent infiltration of the waste management unit by rising groundwater at least as effectively as the prescribed separation. Title 27, Section 20080(b) allows for an engineered alternative under these conditions.

9. Keller Canyon is an area of rapid geologic change. The landfill site includes several landslides and slopes that are known, or have shown, the potential for instability. In order to proceed with the development of any future developments, the discharger must, as required by Title 27, Section 21750(f)(5)(A), provide slope stability analyses, ensuring the integrity of the waste management unit under both static and dynamic conditions throughout the unit's life. Section 21750(f)(5)(C) further requires that the discharger show a factor of safety for the unit's critical slope of at least 1.5 under dynamic conditions. Section 21750(f)(5)(D) allows for an exception where the discharger can estimate the magnitude of movement with the maximum credible earthquake (MCE), and demonstrate that this amount of movement can be accommodated without jeopardizing the integrity of the Unit.

PREVIOUS ORDER AMENDMENTS

10. Order 97-060 amended the discharger's Waste Discharge Requirements, allowing an alternative liner design for a small portion of the landfill's toe berm. One design change is the deletion of the underdrain. This revision was warranted as the lined area did not contain shallow groundwater, and hence the required 5 foot separation from the groundwater was achieved. Order 98-081 also amended the Waste Discharge Requirements, allowing for an alternative liner design for the 9.1 acre Phase 3A area to the south of existing Phase 1B waste cell. This design change also included the deletion of the underdrain in the southern slope, and an engineered alternative to the one-foot underdrain in the eastern slope.

PROPOSED ORDER AMENDMENT

11. The discharger submitted a draft design for the proposed Phase 2B liner expansion, on April 10, 2000. The Phase 2B submittal consists of 23.8 acres of liner to be built in three separate projects, located to the southeast of the Phase 1 area, along with a number of calculations as to the static and seismic stability of all proposed designs. The proposal calls for the partial removal and stabilization of an active landslide known as LS-4. The slopes above the slide would be stabilized by reducing them to a grade of 4.2:1, involving the removal of about 2.9 million cubic yards of soil. About 2 million yards of this soil would be used to build a buttress of engineered fill to stabilize LS-4 at its base. The remaining 0.9 million cubic yards of soil would be placed in an existing stockpile, at the southern portion of the Keller Canyon drainage. The new liner would be placed partly on and above the new buttress, and the liner would consist of (from bottom to top) an underdrain (for the first phase alone), two feet of clay, the HDPE liner, a 12" thick granular layer serving as the leachate collection and recovery system, and finally a 12" thick soil operations layer.

12. Based on the above, the discharger has requested that the Waste Discharge Requirements contained in Board Order No. 91-052 be amended to allow for an alternative design for the liner in the proposed Phase 2B area. The discharger

proposes to eliminate the underdrain for the new liner, except for the 6.3 acre first phase. The second and third phases, consisting of 9.9 and 7.6 acres respectively, would have no underdrain. The new liner will be built on a substantial thickness of engineered fill, which will provide for more than the 5-foot groundwater separation called for in Title 27 requirements. However, this alternative design does require an amendment to the waste discharge requirements contained in Order No. 91-052. Based on the discharger's submissions, the Board finds that this proposed design meets the Title 27 requirements for an engineered alternative.

13. This amendment is exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301, Title 14 of the California Code of Regulations.

14. The Board has notified the discharger and interested agencies and persons of its intent to amend the Waste Discharge Requirements, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to this amendment of Waste Discharge Requirements.

IT IS HEREBY ORDERED that the Keller Canyon Landfill Company, their agents, successors and assigns shall meet the applicable provisions contained in 27CCR, Division 2, Subdivision 1 of the California Code of Regulations and Division 7 of the California Water Code, and shall comply with the following:

1. Specification B.13 of the Waste Discharge Requirements contained in Board Order No. 91-052 currently reads in part:

   "The landfill unit shall have a blanket-type LCRS immediately above the liner, which is designed and operated to prevent the development of hydraulic head on the liner. Minimum criteria for the liner shall include but not be limited to one foot of granular underdrain, two feet of low permeability clay, 80-'mil' HDPE liner and a dendritic LCRS." .....

2. Specification B.13 of the Waste Discharge Requirements contained in Board Order No. 91-052 is amended to include the following additional paragraph:

   "An alternative design is acceptable in the approximately 23.8 acre Phase 2B area. The liner system (from bottom to top) consists of an one-foot thick granular underdrain (for the 6.3 acre first phase alone), 2-foot thick low permeability clay liner having a maximum permeability of 1 X 10E-7 cm/sec, an 80-mil thick double-sided textured high density polyethylene liner (HDPE), a non-woven cushion geotextile, a 1-foot thick granular leachate collection and recovery system

(LCRS), a non-woven filter geotextile, and a minimum 1-foot thick protective soil operations layer."

I, Lawrence P. Kolb, Acting Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on August 16, 2000.

Lawrence P. Kolb
Acting Executive Officer

Attachment: Figure 1, Site Location Map

FIGURE 1

SITE LOCATION MAP
KELLER CANYON LANDFILL
PITTSBURG, CONTRA COSTA COUNTY